

CLAIMS:

1. (Currently Amended) Separator having

~~_____ a rotatable drum (2) with a vertical axis of rotation (M), in which preferably a disk stack (7) is arranged;~~

~~_____ b) a piston slide (13) for opening and closing solids discharge openings (14) in the drum (2);~~

~~_____ c) in the open condition of the piston slide (13), a radial gap (19) being formed between the drum, particularly between a drum top part (15), and the piston slide (13), characterized in that~~

~~_____ d) at least one annular chamber (22) is constructed on both sides of the gap (19) radially in front of the solids discharge openings in the outer circumference area of the piston slide (13) and the drum, particularly in the top part (15) of the drum. A separator, comprising:~~

_____ a rotatable drum having a drum top part, a vertical axis of rotation and a disk stack arranged therein;

_____ a piston slide for opening and closing solids discharge openings in the drum;

_____ a radial gap formed between the drum top part and the piston slide in an open condition of the piston slide; and

_____ at least one annular chamber located on both sides of the radial gap in front of the solids discharge openings in an outer circumference area of the piston slide and the drum top part.

2. (Currently Amended) Separator ~~The separator according to Claim 1 or according to the preamble of Claim 1, characterized in that, in~~wherein the average open condition, ~~the an~~ exit height of the radial gap (19) at the solids discharge openings (14) is greater than ~~the a~~ height of the solids discharge openings.

3. (Currently Amended) ~~Separator~~ The separator according to Claim 1 ~~or 2~~, ~~characterized in that, wherein~~ two radially successive annular chambers (22, 23) are ~~constructed~~ located in the piston slide (13) and in the drum top part ~~(15) of the drum~~.

4. (Currently Amended) ~~Separator~~ The separator according to Claim 1 ~~or 2~~, ~~characterized in that, wherein~~ the two radially successive annular chambers (22, 23) are located in the piston slide and in the drum top part and are mutually connected by a bottleneck.

5. (Currently Amended) ~~Separator~~ The separator according to Claim 3 ~~or 4~~, ~~characterized in that, wherein~~ the two radially successive annular chambers (23) are symmetrically ~~constructed~~ located with respect to ~~the a~~ contact surface of the piston slide (13) on the drum top part (15) ~~of the drum in the a~~ closed condition of the piston slide.

6. (Currently Amended) ~~Separator~~ The separator according to Claim 3 ~~or 4 or 5~~, ~~characterized in that the radially interior annular chamber (22), wherein one of the radially successive annular chambers is a radially interior annular chamber and is constructed as a~~ fanning-out chamber for an exiting stream of solids.

7. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that the radially exterior annular chamber (23)~~ Claim 3, wherein one of the radially successive annular chambers is a radially exterior annular chamber and is constructed as a swirl chamber for the an exiting stream of solids.

8. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 7, wherein the radially exterior annular chamber (23) ~~of the two annular chambers~~ has a greater axial dimension (height H3) than ~~the a~~ radially interior annular chamber ~~(22) of the two annular chambers (height H1).~~

9. (Currently Amended) ~~Separator~~ The separator according to Claim 6, ~~7 or 8~~, ~~characterized in that~~ 7, wherein the radially exterior annular chamber (23) of the two annular

chambers has a greater axial dimension (height H_3) than an axial dimension of the solids discharge openings (14) (height H_2).

10. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 7, wherein in the open condition of the piston slide (13), the radially exterior annular chamber (23) ~~of the two annular chambers has a~~ an axial dimension (height H_3) which is more than twice as large as an axial dimension of the solids discharge openings (height H_2).

11. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 6, wherein the radially interior annular chamber (22) ~~of the two annular chambers starts radially outside a groove (18) for a sealing device (17) in the drum top part of the drum or at the~~ a corresponding point of the piston slide (13).

12. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 6, wherein the radially interior annular chamber (22) ~~of the two annular chambers starts radially outside the~~ a sealing groove (18) in the drum top part (15) of the drum or at the corresponding point of the piston slide (13) at a sharp edge (24) at a radius r_1 , widens to a radius r_2 to a maximal axial dimension $H_1 - H_1$ and then narrows again to an axial dimension $H_4 - H_4$ at a radial point $r_3 - r_3$ so that, in the open condition of the piston slide (13), a the nozzle-type fanning-out chamber is created.

13. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 6, wherein the nozzle-type fanning-out chamber has a radial dimension $r_3 - r_1$ of r_3 minus r_1 , which, in ~~the~~ an average open condition, is more than twice as large as ~~its~~ a maximal axial dimension $H_1 - H_1$ of the fanning-out chamber in the open condition of the piston slide (13).

14. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 13, wherein the maximal axial dimension

(H1)H₁ in the ~~average~~ open condition is smaller, ~~preferably more than 50% smaller,~~ than the an axial dimension (~~H2~~) of the solids discharge openings.

15. (Currently Amended) ~~Separator~~ The separator according to ~~one of the preceding claims, characterized in that~~ Claim 7, wherein the radially exterior annular chamber (~~23~~) has a rounded cross-section, so that liquid is swirled therein.

16. (New) The separator according to Claim 14, wherein the maximal axial dimension H_1 in the open condition is 50% smaller than the axial dimension of the solids discharge openings.